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(54) Title: MODULATION OF IMMUNE SYSTEM FUNCTION BY MODULATION OF POLYPEPTIDE ARGININE METHYLTRANSFERASES

(57) Abstract: The instant invention pertains to, e.g., method of identifying a compound that modulates cytokine production or T cell receptor-mediated signaling, by identifying modulators of the expression and/or activity of PRMT polypeptides. The invention further pertains to methods for identifying a compound that modulates cytokine production in a non-T cell, by identifying compounds that modulate the expression and/or activity of NIP45. Methods for modulating cytokine production in cells by modulating the expression and/or activity of at least one molecule selected from the group consisting of: NIP45, PRMT1, and NFAT are also provided. The invention also pertains to methods for modulating the relative number of Th1 or Th2 cells is modulated and to methods of treating a subject that would benefit from the modulation of cytokine production comprising contacting an immune cell from the subject with an agent that modulates PRMT 1 expression and/or activity in the immune cell.